

2014 Kewaunee County Agricultural Nutrient Balance Summary

Manure Production:

76,000 cattle and calves

42,000 dairy cows (1,400 lb. lactating)	1,134,420 tons manure/year
32,848 dairy replacements	
<ul style="list-style-type: none"> 5,256 Wet calves (0-4 month) 13,797 Open heifers (4-14 month) 13,797 Bred heifers (14 month to calving) 	20,132 tons manure/year 105,746 tons manure/year 206,457 tons manure/year
1,151 beef cows (1,100 lb. high energy)	16,805 tons manure/year

Nutrient Production:

1,134,420 tons dairy cow manure with approximate available nutrient content of 10(N) 6(P ₂ O ₅) 7(K ₂ O)	11,344,200 lbs. N 6,806,520 lbs. P ₂ O ₅ 19,285,140 lbs. K ₂ O
206,457 tons Bred heifer manure w/ approximate available nutrient content of 3(N) 3(P ₂ O ₅) 6(K ₂ O)	619,371 lbs. N 619,371 lbs. P ₂ O ₅ 1,238,742 lbs. K ₂ O
105,746 tons Open heifer manure w/ approximate available nutrient content of 3(N) 3(P ₂ O ₅) 6(K ₂ O)	317,238 lbs. N 317,238 lbs. P ₂ O ₅ 634,476 lbs. K ₂ O
20,132 tons Wet calf manure w/ approximate available nutrient content of 3(N) 3(P ₂ O ₅) 6(K ₂ O)	60,396 lbs. N 60,396 lbs. P ₂ O ₅ 120,792 lbs. K ₂ O
16,805 tons beef cow manure w/ approx. available nutrient content of 4(N) 6(P ₂ O ₅) 10(K ₂ O)	67,218 lbs. N 100,830 lbs. P ₂ O ₅ 168,050 lbs. K ₂ O

Nutrient Totals:

12,408,423 lbs. N
7,904,355 lbs. P₂O₅
21,447,200 lbs. K₂O

Nutrient Utilization:

	N	P ₂ O ₅	K ₂ O
130,228 harvested acres of agricultural crops			
Corn Silage: 25,000 ac/ 437,500 tons	4,750,000 lbs.	1,625,000 lbs.	3,625,000 lbs.
Corn Grain: 28,500 ac/4,101,150 bu.	5,415,000 lbs.	1,567,500 lbs.	1,140,000 lbs.
Soybeans: 10,400 ac/525,200 bu.	0 lbs.	416,000 lbs.	728,000 lbs.
Oats: 5,500 ac/345,950 bu.	220,000 lbs.	110,000 lbs.	605,000 lbs.
W. Wheat: 11,600 ac/887,400 bu.	870,000 lbs.	290,000 lbs.	928,000 lbs.
Forage 49,228 ac/260,100 tons	0 lbs.	2,461,400 lbs.	11,814,720 lbs.
(land used for all hay and all haylage, grass silage and greenchop; tons, dry equivalent)			

Total: 11,255,000 lbs. 6,955,500 lbs. 18,840,720 lbs.

Other considerations:

Applying manure to alfalfa has several advantages. Alfalfa provides a significant amount of available cropland for spreading manure through-out the summer months. Alfalfa removes/requires relatively high rates of nutrients and can benefit from the secondary and micronutrients as well as the primary nutrients in manure. Environmentally, alfalfa will preferentially use available N, up to 300 lb. N/acre/year, rather than symbiotically-fixing N, and because of its deep root system, can extract mobile nutrients (N, S, and B) at greater depths than corn.

A challenging exercise would be to review all nutrient management plans to calculate the amount of manure applied to alfalfa fields in Kewaunee County.

Soybeans absorb significant amounts of nitrogen from manure. Soybeans are not only very good at searching for P and K in the soil they are also very good at using up excess nitrogen. A soybean crop usually removes more nitrogen and potash than a comparable corn crop.

WDNR has permits for 15 livestock operations (14 dairies and 1 beef) in Kewaunee County. There are no pending applications for new CAFO's in Kewaunee County at this time.

A final acknowledgement is that Kewaunee County produced manure is applied to farm land in Brown, Door and Manitowoc counties, and manure is applied to Kewaunee County farmland from farms in these counties. This exchange of manures across county lines would infer that the total manure mass produced in a specific county is not necessarily applied in that same county. Thus, in any given year, it would be possible to have a manure production total which is greater than a manure utilization total for that same county. However, that is not the case in Kewaunee County currently.

Data generated from:

- 2013 Wisconsin Agricultural Statistics
- UW-Extension Nutrient and Pest Management Program-Nutrient Management Fast Facts (1/13)
- 2012 USDA Census of Agriculture
- SnapPlus Nutrient Management Planning Software